

*Seeb A!*

What is claimed is:

1. A method of generating, storing and accessing genomic information, that comprises, generating image patterns containing such genomic information; storing the image patterns in a database library; and accessing the database for such purposes as inputting additional of such image patterns for storage in the database to develop the same, the retrieving of specified image pattern information stored in the database, and image pattern comparison and analysis amongst image patterns.
2. A method of generating, storing and accessing genomic information, that comprises, generating image patterns containing such information in the form of spot patterns of gene fragments distributed by electrophoresis in a gel; formatting the image spot patterns for standardized entry into an image database; storing the same in said database; and enabling accessing of the database for such purposes as the inputting of new image spot patterns into the database, the retrieving of specific image spot pattern information stored in the data base, and comparison and analysis amongst image spot patterns.
3. The method of claim 2 wherein the electrophoretic distribution in the gel is effected, following multiplex PCR operation on the gene fragments, by two-dimensional gene scanning electrophoresis.
4. The method of claim 2 wherein one or more of the inputting, retrieving and accessing is effected by external communication with data base customers and users.
5. The method of claim 4 wherein said communication is over the internet.

6. The method of claim 2 wherein the electrophoresis is enabled by providing customized assay kits to the electrophoresis user, designed to facilitate said standardized formatting of the resulting spot pattern images.
7. The method of claim 6 wherein each kit is customized for a specific known gene or genes. *which genes? could be any kind of kit*
8. The method of claim 6 wherein the kit is designed for an unknown gene or genes.
9. The method of claim 7, wherein the image comparison and analyzing assists in identifying known mutations of the specified gene(s).
10. The method of claim 7 wherein spot image comparison and analyzing assists in identifying target populations for new drugs candidacy.
11. The method of claim 6 wherein the inputting of new spot pattern images into the database, and the retrieving and accessing of information therefrom is networked to external researchers, diagnosticians and others, enabling the developing of the data base from global population bases, and usage of the data base globally as well.
12. A system for generating, storing and accessing genomic information, having in combination, apparatus for generating image patterns containing such information in the form of spot patterns of gene fragments distributed by electrophoresis on a gel; software designed for formatting the fragment spot patterns for standardized entry into an image database; a database storage and retrieval apparatus for storing the spot pattern images stored in the database; and means for enabling remote accessing of the database for such purposes as the inputting of new image spot patterns into the database, the remote retrieving of specific spot pattern

- information stored in the database, and the comparison and analysis amongst image spot patterns.
13. The system of claim 12 wherein the electrophoretic distribution in the gel is effected, following multiplex PCR on the gene fragments, by two-dimensional gene scanning electrophoresis apparatus.
14. The system of claim 12 wherein one or more of the inputting, retrieving and accessing is effected by an external two-way communication network provided for and with data base customers and users.
15. The system of claim 14 wherein said communication network is over the internet.
16. A new method of globally doing business in the sale of services and products related to genomic information, that comprises, creating a database library of standardized – formatted electrophoresis gel spot pattern images of specified gene fragments derived from customer contributors to, and users of, the database library; providing customized assay kit products to such customer designed to insure standardization of such formatted spot pattern images for storage in the database library; enabling two-way communication preferably over the internet, between customers and users and the database library for enabling (1) customer or user remote inputting of new electrophoretic spot pattern images of specified genes and individuals, resulting from population studies and/or from diagnostic testing research; (2) providing for communication to such customers and users, comparison and analyzing services of inputted spot pattern images relative to images stored in the data base; and (3) providing spot pattern image information stored in the database, on request, to such customers and users.

*no art*

17. The method in claim 2 in which the compiled 2-D spot pattern images are directly correlated with protein structure through the linking of the database to protein databases and protein modeling software.
18. The method of claim 1 wherein the database is linked to other bioinformatic resources including other genomic references and protein modeling software and databases.
19. The method of claim 2 wherein the database is linked to other bioinformatic resources including other genomic references and protein modeling software and databases.
20. The method of claim 16 wherein the database is linked to other bioinformatic resources including other genomic references and protein modeling software and databases.
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